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EXAMINER

CRANE, DANIEL C

ART UNIT PAPER NUMBER

3725

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

REJECTION OF CLAIMS OVER PRIOR ART

Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Gray (1,801,153). See the Figures where the punching tool 11 is formed with an elongated body having an end that includes a pilot portion with a terminal end (unlabeled), a main portion 21 and a transition portion 20. The terminal end and main portion 21 are shown as being offset relative to the axis of the tool and the main portion is shown to have a greater surface area than the terminal end, as clearly shown in Figure 3. The transition portion 20 is also shown as being planar as evident from Figures 2 and 3. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). Accordingly, the phrase “for punching a metering orifice extending at an acute angle” relates to post operative features where the tool may be used in this manner. As to claim 2, see Figure 5.

Claims 3, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gray (1,801,153). As to the dimensional relationship between the first and second surfaces, it is the examiner’s position that the skilled artisan having the benefit of Gray’s structure would have been disposed to structure the surfaces so that pilot 14 and cutting portion 13 cooperate with a specifically sized opening while facilitating cutting of the material about the opening. The material of the tool would have been dependent upon its use. Treated steel tools are known for

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their durability. While Gray does not indicate that the tool is provided with two stop members to prevent movement of the workpiece, it is the examiner's position that such would have been envisioned by Gray so as to securely position the workpiece on the die 12 thereby preventing any lateral movement of the workpiece. Furthermore, such is common in the punch art for the noted motivation. Accordingly, it would have been obvious to the skilled artisan to have modified Gray's tool by further providing stops as well known in the art for the noted motivation.

Claims 17-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Takeshita (6,678,955). See Figures 7-10 where the material being displaced (Figure 9A) to form a first orifice wall at an acute angle to the plane of the surfaces of the workpiece and during the formation, by the tool 41, approximately twenty five percent of the orifice area will be displaced at one point of the operation. Lateral movement of the workpiece will be prevented by the dies 42, 43. As shown in Figure 9A, one wall of the cavity, defined by the terminal end of the tool 41, has an acute angle while the other wall of the cavity, defined by the tool end 45, is obtuse.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeshita (6,678,955). As discussed above, the walls of the cavity are acute and obtuse, as measured from one point. The specific angle would have been dependent upon the desired shape of the orifice and the nozzle spray needed. Accordingly, it would have been obvious to the skilled artisan at the time of the invention to have modified Takeshita's operation by situating the angles of the orifice for predetermined spray characteristics.

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Claims 1, 2, 4-7, 9 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Munechika (Japanese document no. 63-224820). See Figures 1 and Figures 2 and 3 where tool 17 or 33 is shown to have a pilot portion, a main portion and a transition portion. A pilot portion is shown at 19, a main portion at 18 and a transition portion at 19A in Figure 1. Similarly, the tool 33 is provided with a pilot portion 35A, a main portion at 34 and a transition portion between the two portions.

Claims 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munechika (Japanese document no. 63-224820). Tool steel is well known in the mechanical arts for its durability. Accordingly, such a provision within Munechika's tool as well known would have been obvious to the skilled artisan for the noted motivation.

RESPONSE TO APPLICANT'S COMMENTS

Applicant's comments have been carefully considered. Applicant argues that Gray does not teach a tool axis that is angularly related with respect to a longitudinal axis. Contrary to applicant's comments, this feature is unsupported by the claimed language. Claim 1 merely states that the tool is "for punching a metering orifice extending at an acute angle". The features of the tool, i.e., elongated body, pilot portion, main portion and transition portion, are all defined relative to the tool axis. Thus, how the tool is used, i.e., "...for punching...at an acute angle", relate to features that may or may not be performed since they are determined by the operator's use of the tool and not the structural makeup of the tool. Applicant's argument that claims 1 and

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16 do not suggest the forming of an angled orifice by the pilot portion is not supported by the claimed language.

As to the applicability of Takashita against claim 17, this is considered tenable.

Responsive to applicant's comments, applicant's attention is directed to Figures 7, 8A and 8B where the orifice hole is defined with elliptical openings on the two surfaces of the plate. Since the punch 46 is tapered offset relative to the axis of the tool, the wall of the orifice is varied about its circumference. Clearly, the orifice wall will not be uniform and thus will constitute first and second orifice walls. Accordingly, it is maintained that claim 17 is readable on the features taught by Takashita.

INDICATION OF ALLOWABLE SUBJECT MATTER

Claims 3, 8, 10-12, 14 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

FINAL OFFICE ACTION

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the

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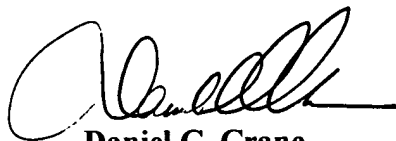
mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

INQUIRIES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner D. Crane whose telephone number is **(571) 272-4516**. The examiner's office hours are 6:30AM-5:00PM, Tuesday through Friday. The examiner's supervisor, Mr. Derris Banks, can be reached at **(571) 272-4419**.

Documents related to the instant application may be submitted by facsimile transmission at all times to Fax number (571)273-8300. Applicant(s) is(are) reminded to clearly mark any transmission as "DRAFT" if it is not to be considered as an official response. The Examiner's Fax number is **(571) 273-4516**.

DCCrane
March 3, 2006



Daniel C. Crane
Primary Patent Examiner
Group Art Unit 3725